INTERNATIONAL SPACE SCIENCE INSTITUTE
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The Physics of Accretion onto Black Holes

• The Workshop papers will be published in the journal Space Science Reviews (Vol. TBD) and reprinted as a hardcover book in the Space Sciences Series of ISSI (Vol. TBD), both published by Springer.

• The workshop papers should not only reflect the presentations as made, but also address the subsequent discussions as much as possible.

• It may be advantageous or desirable to combine two (or more) presentations into a single paper. The authors planning to combine their papers are kindly asked to inform the editors before submitting.

• The volume will be edited by T. Belloni, P. Casella, M. Falanga, M. Gilfanov, P. Jonker, and A: King.

• Deadline for submission: 15 January 2013

• All papers will be reviewed by a referee (who may or may not be a workshop participant) and by one of the editors.

• Page limit is between 20-24. The journal format allows for about 650-700 words per page (minus the space used for figures, tables, etc.). Each participant/author will receive one copy of the book.

• Citations are in author-year format; paper titles are not given in the references.

• Color figures are possible if color conveys a message. ISSI will cover the associated costs.

• Figures from other authors need an appropriate citation and the copyright is not a major issue for Space Science Reviews and SSSI. However it is good to make a small change to figures to ensure avoidance of any possible copyright issues.

• Manuscripts may be submitted in LaTeX or in MS Word. The LaTeX style file with a sample paper and a Word template are provided by Springer here.

• Papers must be submitted directly to Springer's electronic Editorial Manager system.

When first using that system you will need to register (fourth link from the top left corner). You will then receive a return email with username and password. Some systems may treat these return mails as spam, so please check your junk mail folder in case you don't get a reply within a few minutes.

• Select "Black Holes" as the article type of your submission.

Draft Outline of the Book:

1. Historical perspective (K. Pounds)

2. Physical models for the accretion flow around black holes

2.1 General overview of accretion theory (disk instability) (O. Blaes, C. Fragile)
2.2 Timing Overview (T. Belloni & L. Stella)
2.3 Spectral Formation (broad band) (J. Poutanen)
2.4 Current status of simulations (C. Fragile, O. Blaes)
2.5 Observational checks of the picture (T. Maccarone & C. Done)
2.6 X-ray Polarization from Accretion Black Hole (L.-X. Li)

3. Accretion on black holes from stellar mass to supermassive

3.1 Observational appearance of black holes: X-ray binaries, ULXs and AGN (Merloni+Gilfanov) [AGN+XRB]
3.2 Fundamental plane, BH,NS,WD (E. Koerding)
3.3 The various ways of feeding the holes (Bondi capture, binary evolution, tidal disruption, AGN accretion) (A. Loeb & B. Kocsis)
3.4 Black-hole merging and the last parsec problem (recoiling supermassive black holes, spin, growth) (M. Colpi)

4. Black-hole fundamental parameters

4.1 Mass (stellar-mass, prospects for intermediate) (Casares+Jonker)
4.2 Mass (supermassive including Sgr A*) (Peterson)
4.3 Spin (continuum measurements, lines) (McClintock, Reynolds)
4.4 Evidence for black-hole horizon, ISCO detection, material beyond the ISCO (Falcke)

5. Accretion jets outflows

5.1 Overview of jets and outflows in XRB (Fender)
5.2 Outflows in AGN (Pounds)
5.3 Launching mechanisms (Ohsuga)
5.4 Energetics and broad-band spectral distribution (Pe'er)
5.5 Interaction with the environment (jets) (Heinz)
5.6 Interaction with the environment (outflows) (King)
5.7 The accretion/ejection interaction (Gallo+Casella)

6. Overview and outlook (at all wavelengths) (Maccarone & Falanga)